Declarative Query Processing in Imperative Managed Runtimes

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ABSTRACT

The falling price of main memory has led to the development and growth of in-memory databases. At the same time, new advances in memory technology, like persistent memory, make it possible to have a truly universal storage model, accessed directly through the programming language in the context of a fully managed runtime. This environment is further enhanced by language-integrated query, which has picked up significant traction and has emerged as a generic, safe method of combining programming languages with databases with considerable software engineering benefits.

Short Bio

Stratis Viglas is a Reader (Associate Professor) in Database Systems in the School of Informatics at the University of Edinburgh, which he joined after receiving his PhD from the University of Wisconsin-Madison in 2003. He has made contributions to data stream processing, XML data management, query processing and optimization, and data management over flash memory. His current work involves integrating managed runtimes with database systems for main memory query processing through just-in-time compilation of SQL queries and incorporating technologies like heterogeneous multicore and persistent memory into the data processing stack.